

REMARKS

Claims 1 and 12 have been canceled, claims 2, 3, 6, 7, 9-11, 13, 14, 17, 18 and 20-24 have been amended, and claims 29-33 have been added. Claims 2-11 and 13-33 remain in the application.

The Examiner objected to the disclosure because some specification reference numbers did not match those of the drawings. In response, reference numbers in the specification have been amended to conform them to the filed drawings. Applicants thank the Examiner for the close reading that found these errors.

The Examiner allowed claims 25-28 and stated that claims 13-16 and 24 would be allowable if rewritten in independent form including the limitations of all base and intervening claims.

Accordingly, claims 13, 14 and 24 have been rewritten in independent form with claims 15 and 16 remaining dependent from now-independent claim 14. Claims 17, 18 and 20-23 have been amended to depend from now-independent claim 14 with claim 19 remaining dependent from claim 18. Claims 31, 32 and 33 are substantially similar to claims 15, 16 and 20 and have been added to depend from now-independent claim 13.

With respect to claims 13 and 14, the Examiner stated that the prior art of record does not disclose or suggest a variable-gain mixer that includes "the limitation directed to a gain interpolator (104) that, in response to a second segment (N) of the control word, provides the control current (I1, I2) to the multiplexer (32)"

These limitations are also included in claims 2 and 3 which are now simply directed to amplifiers and have been amended to be in independent form. Because the prior art of record does not disclose or suggest these limitations, it cannot anticipate claims 2 and 3 nor can it support a *prima facie* case of obviousness with respect to these claims. Accordingly, now-independent claims 2 and 3 patentably distinguish over the prior art of record. Because claims 4-11 add further limitations to claim 3 and claims 29 and 30 (substantially similar to claims 4 and 5) add further limitations to claim 2, they also patentably distinguish over the prior art of record.

The Examiner rejected claims 1-11 under 35 USC §112, first paragraph as failing to comply with the enablement requirement and also rejected these claims under 35 USC §112, second paragraph as being incomplete. In particular, the Examiner noted that the (claim 1 preamble) phrase "provides a mixer output in response to first and second input signals" is not enabled with respect to a variable-gain amplifier and further noted that structural cooperative relationships (recited in limitations of claim 1) between "the second input signal and other elements of the variable-gain amplifier" have been omitted.

As originally written, the preamble of claim 1 was inadvertently copied from claim 12 with "mixer" replaced by "amplifier". Accordingly, the Examiner correctly entered the §112 rejections. The preambles of now-independent claims 2 and 3 are simply addressed to "a variable-gain amplifier" and "said first input signal" in the limitations has been altered to "an input signal".

Because the preamble and limitation of claim 1 that prompted the §112 rejections have been removed from now-independent claims 2 and 3, they both comply with the enablement requirement and are complete (that is, they do not omit structural cooperative relationships).

It is important to note that the amendments of claims 13, 14 and 24 place them in independent form. Because these amendments make no substantive changes in the filed language of these claims, these amendments are unrelated to statutory requirements for patentability and do not, therefore, alter the scope of the claims. Because the amendments of claims 2 and 3 simply remove inadvertent language from their preambles and remove an incorrect reference to an antecedent, these amendments also do not alter the scope of the claims.

Applicants therefore request reconsideration and withdrawal of the rejections and objections and an early allowance of claims 2-11, 13-24 and 29-33 to join already-allowed claims 25-28.

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